

What is Claimed is:

/72

1. A transfer switch comprising:  
a circuit breaker housing;  
a first line terminal;  
a second line terminal;  
a load terminal;

which said transfer arm is electrically connected to said first line terminal and a second position in which said transfer arm is electrically connected to said second line terminal;

means for moving said transfer arm between the first and second positions thereof;

separable contacts electrically connected between said transfer arm and said load terminal; and

an operating mechanism for opening and closing said separable contacts.

2. The transfer switch of Claim 1 wherein said operating mechanism includes a thermal trip circuit to trip open said separable contacts.
3. The transfer switch of Claim 1 wherein said operating mechanism includes a magnetic trip circuit to trip open said separable contacts.
4. The transfer switch of Claim 1 wherein said operating mechanism includes a thermal / magnetic trip circuit to trip open said separable contacts.

5. The transfer switch of Claim 1 wherein said operating mechanism includes an operating handle to open and close said separable contacts.

6. The transfer switch of Claim 1 wherein said means for moving said transfer arm includes a solenoid having a first coil, a second coil and a plunger engaging said transfer arm, said first coil adapted for energization by a first signal to move said plunger in a first direction to move said transfer arm to the first position thereof, said second coil adapted for energization by a second signal to move said plunger in a second direction to move said transfer arm to the second position thereof.

10003133-11501

7. The transfer switch of Claim 6 wherein said means for moving said transfer arm further includes a micro-switch having a normally open contact electrically connected in series with the first coil, a normally closed contact electrically connected in series with the second coil, and an operating member for switching said normally open contact and said normally closed contact, said normally closed contact and said normally open contact having a common terminal adapted to receive a control voltage to energize one of the first and second coils; and wherein the plunger of said solenoid has a projection which engages and actuates the operating member in the first position of said transfer arm, thereby causing said normally closed contact to open and said normally open contact to close.

8. The transfer switch of Claim 1 wherein said housing includes a pivot point; and wherein said transfer arm includes a first end, a second end and a pivot therebetween, said pivot pivotally engaging the pivot point of said housing and being adapted to pivot said transfer arm between the first and second positions thereof.

9. The transfer switch of Claim 8 wherein said means for moving said transfer arm includes a solenoid having a plunger which engages the transfer arm between the pivot and one of the first and second ends thereof.

10. The transfer switch of Claim 1 wherein said housing includes a pivot point; and wherein said transfer arm includes a first end, a second end and an intermediate portion therebetween, the first end having a pivot adapted for movement of the transfer arm between the first and second positions thereof, the second end having a first contact adapted for electrical connection with the first line terminal in the first position of said transfer arm and a second contact adapted for electrical connection with the second line terminal in the second position of said transfer arm, the intermediate portion of said transfer arm adapted for movement by said means for moving said transfer arm.

11. The transfer switch of Claim 10 wherein said means for moving said transfer arm includes a solenoid having a plunger which engages the transfer arm at the intermediate portion thereof.

12. The transfer switch of Claim 1 wherein said circuit breaker housing is a miniature circuit breaker housing.

13. A remotely controllable transfer switch comprising:

a circuit breaker housing;

a first line terminal;

a second line terminal;

a load terminal;

a transfer arm adapted to pivot between a first position in which said transfer arm is electrically connected to said first line terminal and a second position in which said transfer arm is electrically connected to said second line terminal;

a solenoid having a first coil, a second coil and a plunger engaging said transfer arm;

a control circuit for said solenoid including a first terminal adapted to receive a first external signal, a second terminal adapted to receive a second external signal, and a third terminal adapted to receive a control voltage, said control circuit responsive to said first external signal to energize said first coil with said control voltage in order to move said plunger in a first direction to pivot said transfer arm to the first position thereof, said control circuit responsive to said second external signal to energize said second coil with said control voltage in order to move said plunger in a second direction to pivot said transfer arm to the second position thereof;

separable contacts electrically connected between said transfer arm and said load terminal; and

an operating mechanism for opening and closing said separable contacts.

14. The transfer switch of Claim 13 wherein said control circuit further includes a micro-switch having a normally open contact electrically connected in series with the first coil, a normally closed contact electrically connected in series with the second coil, and an operating member for switching said normally open contact and said normally closed contact, said normally closed contact and said normally open contact having a common terminal electrically connected to said third terminal to receive said control voltage to energize one of the first and second coils; and wherein the plunger of said solenoid has a projection which engages and actuates

the operating member in the first position of said transfer arm, thereby causing said normally closed contact to open and said normally open contact to close.

15. The transfer switch of Claim 13 wherein said housing includes a pivot point; and wherein said transfer arm includes a first end, a second end and a pivot therebetween, said pivot pivotally engaging the pivot point of said housing, in order to pivot said transfer arm between the first and second positions thereof.

16. The transfer switch of Claim 15 wherein the plunger of said solenoid engages the transfer arm between the pivot and one of the first and second ends thereof.

17. The transfer switch of Claim 13 wherein said housing includes a pivot point; and wherein said transfer arm includes a first end, a second end and an intermediate portion therebetween, the first end having a pivot adapted for movement of the transfer arm between the first and second positions thereof, the second end having a first contact adapted for electrical connection with the first line terminal in the first position of said transfer arm and a second contact adapted for electrical connection with the second line terminal in the second position of said transfer arm, the plunger of said solenoid moving the intermediate portion of said transfer arm.

18. The transfer switch of Claim 17 wherein the plunger of said solenoid engages the transfer arm at the intermediate portion thereof.

19. The transfer switch of Claim 13 wherein said circuit breaker housing is a miniature circuit breaker housing.

20. The transfer switch of Claim 13 wherein the control voltage has a return; wherein the first terminal is adapted for electrical connection with a first remote contact which is referenced to the return of the control voltage; and wherein the second terminal is adapted for electrical connection with a second remote contact which is referenced to the return of the control voltage.